

Patent Claims:

1. Shock absorber (2) with a piston rod (12) accommodated in an outside housing (14) so as to be slidable in its longitudinal direction,  
c h a r a c t e r i z e d in that the piston rod (12) or the outside housing (14) is equipped with a magnetic encoder (18) comprising a permanent-magnetic material with a modulated field line progression and/or modulated magnetic field strength extending in the longitudinal direction.
2. Shock absorber (2) as claimed in claim 1,  
c h a r a c t e r i z e d in that the magnetic encoder (18) has a generally tubular design and encloses the piston rod (12) in an evaluation range (16) in form-fit engagement.
3. Shock absorber (2) as claimed in claim 1 or 2,  
c h a r a c t e r i z e d in that the magnetic encoder (18) is encompassed by a protective sheathing (20) formed of magnetically non-conductive material.
4. Shock absorber (2) as claimed in any one of claims 1 to 3,  
c h a r a c t e r i z e d in that the encoder (18) includes a position index (40) with a coding that can be specifically detected by an associated sensor (50).
5. Shock absorber (2) as claimed in any one of claims 1 to 4,  
c h a r a c t e r i z e d by a number of magnetic field sensors (26) fixed to the outside housing (14) or the piston rod (12).

6. Shock absorber (2) as claimed in claim 5,  
c h a r a c t e r i z e d in that the magnetic field sensor(s) (26) is(are) arranged on a sensor carrier which concentrically encloses the piston rod (12) furnished with the magnetic encoder (18).
7. Shock absorber (2) as claimed in claim 5 or 6,  
c h a r a c t e r i z e d in that the magnetic field sensors (26) are structurally grouped in a sensor subassembly comprising a feed line and/or a plug element for connecting a feed line.
8. Shock absorber (2) as claimed in claim 7,  
c h a r a c t e r i z e d in that the sensor subassembly is connected to the outside housing (14) by way of a snap-type or catch-type engagement, in particular by way of an annular locking projection.
9. Assembly (4) for detecting shock absorber movements, in particular for a shock absorber (2) as claimed in any one of claims 1 to 8,  
c h a r a c t e r i z e d in that a magnetic encoder (18) that is arranged at a piston rod (12) or at the outside housing (14) of the shock absorber (2) and comprises a permanent-magnetic material with a modulated field line progression and/or modulated magnetic field strength extending in the longitudinal direction cooperates with a number of magnetic field sensors (26) fixed to the outside housing (14) or the piston rod (12) in order to generate output signals that are characteristic of a position parameter and adapted to be further processed.

10. System (1) for shock absorber control including a controller unit (8) which, on the inlet side, is connected to an assembly for detecting shock absorber movements as claimed in claim 9, and which produces control commands for actors (6) associated with the shock absorber (2) in dependence on the output signals produced by said assembly.